Serial No. 10/662,149

IN THE CLAIMS:

Please amend claims 14, 15, 17, 29, 41, 51 and 52 and cancel claims 16 and 53 without prejudice as follows:

1-13. (Canceled).

14. (Currently amended) A method of providing forward error correction for data services in a wireless system using time-division multiple-access (TDMA), the method comprising the steps of:

segmenting data into ~~a~~-data blocks, each data block having a predetermined data block size; and

encoding the segmented data, in the wireless system using TDMA, with a parallel concatenated convolutional code, the parallel concatenated convolutional code ~~is~~being a Turbo Code comprising a plurality of constituent codes such that a plurality of data block sizes and a plurality of code rates are supported in conjunction with the Turbo Code,

wherein at least one of the plurality of constituent codes has a transfer function of: $G(D)=[1, (1+D+D^3)/(1+D^2+D^3)]$ for a code rate of 1/3 and a minimum code rate of 1/5.

15. (Currently amended) A system for providing forward error correction for data services in a wireless system using time-division multiple-access (TDMA), the system comprising:

a processor adapted to segment data into a-data blocks, each data block having a predetermined data block size; and

a Turbo encoder comprising a plurality of constituent encoders, each of the plurality of constituent encoders adapted to encode the segmented data in the wireless system using TDMA, with a parallel concatenated convolutional code such that a plurality of data block sizes and a plurality of code rates are supported,

wherein at least one of the plurality of constituent encoders has a transfer function of: $G(D)=[1, (1+D+D^3)/(1+D^2+D^3)]$ for a code rate of 1/3 and a minimum code rate of 1/5.

16. (Canceled).

17. (Currently amended) A mobile telephony apparatus to provide forward error correctable data in a wireless communication network, the apparatus comprising:

a processor adapted to segment data into ~~a~~ data blocks, each data block having a predetermined data block size;

a turbo code encoder in data communication with the processor and adapted to process the data blocks, the turbo code encoder comprising a plurality of constituent encoders, wherein at least one of the plurality of constituent encoders has a transfer function of: $G(D)=[1, (1+D+D^3)/(1+D^2+D^3)]$ for a code rate of 1/3 and a minimum code rate of 1/5;

a channel interleaver in data communication with the turbo code encoder and adapted to interleave code symbols; and

a transmitter adapted to transmit the interleaved code symbols through an antenna.

18. (Previously presented) The mobile telephony apparatus of claim 17, wherein turbo code encoder comprises two constituent encoders enabling the minimum code rate.

19. (Previously presented) The mobile telephony apparatus of claim 17, wherein the turbo code encoder comprises a puncturer adapted to puncture output bits from the plurality of constituent encoders resulting in a plurality of code rates.

20-21. (Canceled)

22. (Previously presented) The mobile telephony apparatus of claim 19, wherein the puncturing is performed in accordance with periodic puncturing patterns.

23. (Previously presented) The mobile telephony apparatus of claim 19, wherein the puncturing results in the plurality of code rates approximately equal to 1/n, wherein n is a positive integer.

24. (Previously presented) The mobile telephony apparatus of claim 17, wherein turbo code encoder comprises two constituent encoders resulting in a code rate of approximately 1/n, wherein n is a positive integer.

25. (Previously presented) The mobile telephony apparatus of claim 19, wherein the puncturing results in the plurality of code rates approximately equal to 1/3.

26. (Previously presented) The mobile telephony apparatus of claim 17, wherein turbo code encoder comprises two constituent encoders resulting in the code rate of 1/3.

27. (Previously presented) The mobile telephony apparatus of claim 17, wherein the turbo code encoder is adapted to receive a plurality of data block sizes.

28. (Previously presented) The mobile telephony apparatus of claim 27, wherein the turbo code encoder comprises a turbo code interleaver adapted to interleave the plurality of data blocks

29. (Currently amended) A base telephony system to provide forward error correctable data in a wireless communication network, the apparatus comprising:

a processor for segmenting data into ~~a~~ data blocks, each data block having a predetermined data block size;

a turbo code encoder in data communication with the processor and adapted to process the data blocks, the turbo code encoder comprising a plurality of constituent encoders, wherein at least one of the plurality of constituent encoders has a transfer function of: $G(D)=[1,(1+D+D^3)/(1+D^2+D^3)]$ for a code rate of 1/3 and a minimum code rate of 1/5;

a channel interleaver in data communication with the turbo code encoder and adapted to interleave code symbols; and

a transmitter adapted to transmit interleaved code symbols through an antenna.

30. (Previously presented) The base telephony apparatus of claim 29, wherein turbo code encoder comprises two constituent encoders enabling the minimum code rate.

31. (Previously presented) The base telephony system of claim 29, wherein the turbo code encoder comprises a puncturer adapted to puncture output bits from the plurality of constituent encoders resulting in a plurality of code rates.

32-33. (Canceled)

34. (Previously presented) The base telephony system of claim 31, wherein the puncturing is performed in accordance with periodic puncturing patterns.

35. (Previously presented) The base telephony system of claim 31, wherein the puncturing results in the plurality of code rates approximately equal to 1/n, wherein n is a positive integer.

36. (Previously presented) The base telephony system of claim 29, wherein turbo code encoder comprises two constituent encoders resulting in a code rate of approximately 1/n, wherein n is a positive integer.

37. (Previously presented) The base telephony apparatus of claim 31, wherein the puncturing results in the plurality of code rates approximately equal to 1/3.

38. (Previously presented) The base telephony system of claim 29, wherein turbo code encoder comprises two constituent encoders resulting in the code rate of 1/3.

39. (Previously presented) The base telephony system of claim 29, wherein the turbo code encoder is adapted to receive a plurality of data block sizes.

40. (Previously presented) The base telephony system of claim 39, wherein the turbo code encoder comprises a turbo code interleaver adapted to interleave the plurality of data block sizes.

41. (Currently amended) A method for encoding data in a radio telephony apparatus to provide forward error correctable data in a wireless communication network, the method comprising the steps of:

segmenting data into ~~a~~ data blocks, each data block having a predetermined data block size;

encoding the data blocks in a turbo code encoder, the turbo code encoder comprising a plurality of constituent encoders, wherein at least one of the plurality of constituent encoders has a transfer function of: $G(D)=[1, (1+D+D^3)/(1+D^2+D^3)]$ for a code rate of 1/3 and supporting a minimum code rate of 1/5;

channel interleaving an output from the turbo code encoder to interleave code symbols; and

transmitting the interleaved code symbols.

42. (Previously presented) The method of claim 41, wherein turbo code encoder comprises two constituent encoders enabling the minimum code rate.

43. (Previously presented) The method of claim 41, wherein the turbo code encoder comprises a puncturer adapted to puncture output bits from the plurality of constituent encoders resulting in a plurality of code rates.

44. (Previously presented) The method of claim 43, wherein the puncturing is performed in accordance with periodic puncturing patterns.

45. (Previously presented) The method of claim 44, wherein the puncturing results in the plurality of code rates equal to approximately 1/n, wherein n is a positive integer.

46. (Previously presented) The method of claim 41, wherein the turbo code encoder comprises two constituent encoders resulting in a code rate of approximately 1/n, wherein n is a positive integer.

47. (Previously presented) The method of claim 44, wherein the puncturing results in the plurality of code rates equal to 1/3.

48. (Previously presented) The method of claim 41, wherein turbo code encoder comprises two constituent encoders resulting in the code rate of 1/3.

49. (Previously presented) The method of claim 41, wherein the turbo code encoder is adapted to receive a plurality of data block sizes.

50. (Previously presented) The method of claim 49, wherein the turbo code encoder comprises a turbo code interleaver adapted to interleave the plurality of data block sizes.

51. (Currently amended) A method of providing forward error correction for data services in a wireless system using code-division multiple-access (CDMA), the method comprising the steps of:

segmenting data into ~~a~~ data blocks, each data block having a predetermined data block size; and

encoding the segmented data, in the wireless system employing CDMA, with a parallel concatenated convolutional code, the parallel concatenated convolutional code being a Turbo Code comprising a plurality of constituent codes such that a plurality of data block sizes and a plurality of code rates are supported in conjunction with the Turbo Code,

wherein at least one of the plurality of constituent codes has a transfer function of: $G(D)=[1, (1+D+D^3)/(1+D^2+D^3), (1+D+D^2+D^3)/(1+D^2+D^3)]$ for a code rate of 1/3 and a minimum code rate of 1/5.

52. (Currently amended) A system for providing forward error correction for data services on a wireless system using code-division multiple-access (CDMA), the system comprising:

a processor adapted to segment data into ~~a~~ data blocks, each data block having a predetermined data block size; and

a Turbo encoder comprising a plurality of constituent encoders, each of the plurality of constituent encoders adapted to encode the segmented data in the wireless system employing TDMA, with a parallel concatenated convolutional code such that a plurality of data block sizes and a plurality of code rates are supported,

wherein at least one of the plurality of constituent encoders has a transfer function of: $G(D)=[1, (1+D+D^3)/(1+D^2+D^3), (1+D+D^2+D^3)/(1+D^2+D^3)]$ for a code rate of 1/3 and a minimum code rate of 1/5.

53. (Canceled).